Twin Falls County Ground Water Quality Advisory Committee
Draft MEETING MINUTES

Idaho Department of Environmental Quality
650 Addison Ave. W., Twin Falls, Idaho

Thursday, November 30, 2017 at 1:30 p.m.

Attendees

Phyllis Beard, TASCO, retired
Terry Kramer, Twin Falls County
Carolyn Firth, ISWCC
Brian Olmstead, TFCC
Rob Bohling, City of Twin Falls
Clinton Barnes, IDWR
Irene Nautch, DEQ Twin Falls
Mike Brown, DEQ
Jason Brown, City of Twin Falls
Richard Parrott, Farmer south of Filer
By Teleconference: Kathryn Elliott, DEQ; Curtis Cooper, ISDA; Ralph Fisher, EPA; Nick Peak, EPA

Introductions/Minutes

Phyllis Beard, Chair began the meeting of the Twin Falls County Ground Water Advisory Committee at 1:35 p.m. Phyllis welcomed everyone and called for introductions. Phyllis gave everyone some time to look at the October minutes. Richard Parrott asked why none of his comments were in the record. Phyllis said the minutes reflect what was reported and what is discussed. Richard asked if you have to have a report to get on the record. Irene (who transcribes the minutes) said she tries to get the highlights only because in the past, people commented on how lengthy the minutes were. She said she would gladly include any comments from Richard that he would like included as a compromise, but he yielded, adding earlier that he was wanting to figure out how things worked (with this group), but he thinks maybe the minutes should be longer. The October meeting minutes were then approved as written.

ISDA Dairy Program – Mitch Vermeer, ISDA

Mitch Vermeer introduced himself as the Section Manager of Animal Industries at ISDA. He began with some facts shown in Slide 2. There are 500 dairies in Idaho, of which 300 are in the Magic Valley. The average dairy size is 1100 cows. Twin Falls County facts: 56 dairy operations with 73,000 cows; 12 large feedlots (>1000 head), 86 smaller feedlots, and 19 with < 300 head. In comparison: Jerome: 57 dairies with 84,000 cows; Gooding: 80 dairies with 145,000 cows.

Question (Q) by Brian O: Where is the county line between Twin Falls and Cassia? There must be 25000 cows within a few miles but not sure what county they are in?
Mitch: wasn't sure where most of the cows were and would have to look at a map, it's a fuzzy line.
Mitch talked about the types of inspections they do (Slide 3). The Grade A Sanitation inspections are governed by the PMO (Pasteurized Milk Ordinance) and are performance based with up to 4 inspections per year (Slide 4). Water testing is for nitrate of the facility's well. We do not test for antibiotics (in response to a question).

(Slide 5) Dairy environmental inspections are conducted 2-6 times per year and whenever there is a complaint. He reviewed the things they look for including the following (Slide 6): compost yard and lagoon conditions; when it was cleaned out did they gouge the liner; preventative berming because dairy facilities and large CAFOs must protect from run on and runoff; they must have containment for 180 days storage to contain all the nutrients and any process water. We make sure they properly handle nutrients and their application to their property.
Q by Richard P: Haflinger dairy applies liquid waste from a spinner – are you aware of that? And it used to be shanked in.
Mitch: In Idaho during the growing season or during winter, we do not have an incorporation requirement; we obviously recommend it within 48 hours. We highly discourage winter application of manure even though a lot of them do it. What we saw this winter with all the flooding – we did not give facilities a free pass just because of the weather events. We had over 40 documented discharges with the vast majority here in Magic Valley (35) (Slide 7). We've had enforcement meetings with all the facilities going through the evidence and sometimes there's a monetary penalty attached to that. We did a lot of educational outreach with producers to make sure we are better prepared for a future storm event.

Any time there is an environmental violation, we have wiggle room; depending on the violation, we set a compliance date to fix the issue; if no improvements we issue a Notice of Violation. We evaluate all the discharges individually.
Q by Irene: You mentioned you did educational outreach. What did that entail?

Mitch: we hired 3 additional inspectors that were strictly environmental and nutrient management. They were given a list and started visiting facilities at higher risk and evaluated their Nutrient Management Plans (NMP) much more thoroughly than in the past. Before it was a side deal, now our inspections can take anywhere from a couple hours to a couple days. When I took this position there was a backlog of plans that had not been looked at or updated within a decade. Since then we've updated almost 100% of the NMPs in the state that were out of date.
Q by Richard: is the NMP a secret or where they put the manure? How can someone complain if you have nothing to stand on? Citizens are the police not you guys?
Mitch: by Idaho law the NMP is protected. We do check the facilities, their operations, and their fields. In this area there are several inspectors visiting a facility up to 6x/year.
Q by Richard: so this group is concerned with ground water. So what do you care, it will run into the highline canal and go down Salmon Falls creek and into the river.
Mitch: a discharge is anything that goes off property.
Brian: in February in our area what we saw coming into our canals, the problem was frozen ground applications because it wasn't incorporated.
Mitch: that's the gamble these operations are taking, because they can't incorporate. If the flood waters come, they are adding to the situation.
Brian: at Amalgamated farms they have a fairly large berm around their fields so the runoff was contained. So to me that would be the mitigation for frozen ground application, to have a berm around the field because you can store quite a few acre feet with a reasonable size berm.
Richard: When applying to frozen ground you don't pack your soils. So there's a good reason.
Q by Irene: the change in hiring more inspectors, is that a permanent thing, and did it happen because of the flooding last winter?
Mitch: That was already in process before the flooding. Before, the grade A inspectors were also doing the waste inspections. It wasn't very efficient and we weren't being as thorough, so now we have an environmental section.
All dairy facilities and large CAFO operations are required to have a NMP which needs to be done by a certified planner. We used to do them but not anymore. ISDA also certifies them. It requires a couple of hour's classroom time and then they need to write a couple of plans.

(Slide 8) There is a list of things we check for in a nutrient management inspection, like an increase in livestock numbers by 10% or more, or an increase in application or farming acres by 10% or more – NMP would have to be rewritten.
Q by Richard: these giant piles of silage sitting around that are going to turn into manure and water. Does that get put on with pivots?
Mitch: There are a few facilities with mixing ponds which are diluted and can be spread around. They are allowed to do that. As part of the NMP we look at all their soil samples every year of all their fields. Right now we are a P threshold based state so 40 ppm is the limit. If a facility goes over, they are not in trouble immediately. If we get a trending 2 out of 3 samples that triggers a meeting. We develop a game plan of how to reduce this.
Q by Nick: do you test for nitrogen?
Mitch: We look at the results but we can't enforce. There is no N threshold.
Irene: isn't there a guideline or recommendation on that?
Mitch: There is through NRCS.
Richard: advantage of the lagoons is they burn off most of the N.
Mitch: There is the ammonia program that helps mitigate.

Another thing being reviewed is approval for lagoons. We look for the original construction documents. Some have been here since the 70s. We're requiring the lagoon be emptied out, do a visual inspection, compaction testing, and soil samples of the inner liner. Depending on results we may get an engineer or a soil scientist out to get them up to the Idaho standards. We're estimating that all lagoons will be approved and up to state standards within a year. In response to a question about this being a new procedure, Mitch said when the law changed, not all lagoons were brought up to the new standard.
Q by Irene: what law was changed?
Mitch: the NMP rule and dairy byproduct rule.
Q by Richard: my understanding is that lagoons are allowed to leak up to 2 inches a day? Where is that?
Mitch: I've not seen that. We're looking into getting equipment that will allow us to evaluate the lagoon while it's full. Now all the mixing ponds are also required to be constructed up to the standards.
Q by Irene: Is there leak or seepage testing? Mitch responded that they are at the beginning stages of looking at that.

Phyllis: pretty hard to do that when they can't shut them down during the time you need to do that. When you approve a lagoon, it has to have the correct lining and compacted properly. If inspection shows the integrity of the liner has not been impinged you can make a strong assumption that the liner is not leaking with any significance. That's where you're at?
Mitch: that's correct.
Q by Irene: the liner can be any material?
Mitch: Most are clay liners, but a few concrete, but no plastic. A few have tried but they tend to float.
Q by Richard: Would you make the claim that the clay gets tighter and tighter as manure is added?
Mitch: Talking to soil scientists, they say that waste does help seal it. I've seen where they use an excavator to check the seal; pull a couple of feet and saturation is not more than an inch or two, at most 4 inches that I've seen. Liner has to be 15% clay or more, compaction of 10^{-6} and minimum of 2 to 1 slope – these are the basics. (Slide 9)More specifics are in the dairy waste rule, Appendix 10-D ASAE Standard.
Richard: What this group should be concerned about are two issues for ground water: Putting it in a discharge hole which can happen on the north side; or through the lagoons or the fields.
Mitch: Personally, I have not seen discharges into the aquifer.
Richard: There are plenty of natural holes on the north side (of the river). I'm familiar with the area south of Filer which has no natural ground water; it's all seepage from the highline canal.
Mitch: I can tell you that the vast majority of wells we test on dairy farms test low for nitrates (<10 ppm). And all that information is passed on to DEQ.

Also as part of nutrient management inspections, we check for changes in crop rotation and irrigation system. Check their uptake, if not enough they need to do something about it. Also check yields. If they say they're getting 36 ton/acre and we find out its 26, they need to change the NMP to reflect that. If there's a new sensitive area, doesn't happen very often, but if they expand say closer to a canal we want to make sure it is protected. Soil samples are checked. We need land application records.
Q by Carolyn: for 3rd party exports do they have to tell how much they export?
Mitch: Yes, but don't know to which fields, only which neighbor, how much and when.

For lagoons, we don't dictate where the pond is, we just approve it. That's up to the county.
Terry K: we have the CAFO Siting Team go out and do a site inspection when there is an expansion, or any change to the CAFO permit. You may see some secondary containment ponds being built without the siting team come out. We haven't seen a lot of new permits. But nothing seems to be changing much.
Richard: a comparison, the dairy south of Buhl sells milk; they have a lagoon but they don't need it.
Mitch: there have been facilities that go organic and/or go to pasture based. Related rule changed last year. Before, dairy cows could not have access to surface waters. Now if pasture based and meet certain requirements (a cow per acre, erosion limitations) they're allowed (Slide 13). This was for the smaller organic facilities.

(Slide 10) Ammonia inspections are done twice a year on large dairies only, 102 permitted dairies on this program. They have to meet 27 points and BMPs that they have to abide by, like incorporation within 24-48 hrs, direct injection, and low pressure sprinklers. There's a large list. Mitigation can also include scraping feed alleys daily, mechanical separators.
Phyllis: there are a lot of ways to get points for ammonia suppression.
On farm power plants and digesters were discussed. Points made include: 1) Only a handful exist, not very cost effective; 2) they plug up; 3) limited government subsidies for all to have them.

(Slide 11) ISDA responds to all complaints, no matter what they are within 24 hrs. Richard asked if he could get a list of complainers. Mitch said it's all public record, some call in anonymously. Discharge inspections are done when any byproduct leaves the dairy's property or enters waterways (Slide 12). These can result in an investigation and settlement meeting. EPA gets a call when a water of the U.S. (WOTUS) is involved. Richard asked if a canal was a WOTUS. Mike Brown responded that if there is a direct conveyance to a WOTUS, then yes.

(Slide 14) Proposed rules involve phosphorus (P) indexing. An evaluation of every field would be done for each producer and a risk is assessed based on depth to ground water, irrigation system, slope, distance to surface water, etc. They are given a score and if they are low risk they can apply up to the Zero out which if low risk of transport to surface or ground water equals 300 ppm P. Mitch said he would send us the rule details. Medium risk fields can apply up to crop uptake, high risk fields can apply half to crop uptake, and very high risk fields cannot apply any nutrients. Originally the scoring will be done by the certified planner then ISDA will be checking them. They can lower their risk score with certain BMP

applications, like berming at the end of a field, contour farming, and buffer strips. The rule has wide support; it was proposed by the Dairy Association. Soil samples have to be taken by a certified soil sampler and taken to a certified lab, paid for by the producer.

(Slide 15) ISDA is also proposing to close the 3rd party gap for lands owned or partially owned by a producer but under a different name (LLC). P going offsite is the problem and it's usually a surface water issue not a ground water issue. There was discussion about this. Points made include: 1) over application is not a huge problem on 3rd party fields; 2) no ill effect of too much P; 3) salt is a problem; 4) end destination determines if the P is detrimental; 5) P is usually a surface water problem; 6) Irene and Carolyn pointed out that there is evidence of P leaching below root zone in the current deep soil sampling projects. Mitch said they are now required to have an N budget and signed off by their applicator. ISDA also developed a new NMP replacing the One Plan. Starting this month the new application is official. Book values are no longer being used but have to use actual sampling of their nutrient streams. It can be updated every five years. We have results for N, P and K to put into the calculation, but the requirement is based on P.
Ralph: it's a positive step forward that a N budget is required, but recommended that standards be also based on N. Rules are all available on the website, and the website is currently being updated. Irene asked about a list of BMPs found on the website and Mitch said he would have to look at those. These could be incorporated by reference.
Q by Ralph: want to know confirm that the zero out or the no application level was 300 ppm P.
Mitch: Yes, but only on low risk fields, so depth to ground water and surface water would be very great. Terry asked if there are any fields that high. Mitch said very few, some in the hundreds. Irene asked for clarification on requiring NMPs for feedlots. Mitch said the large CAFOs and those designated as a significant contributor, such as a small facility that might be right next to a stream. Smaller feedlots not inspected as often.
Nick: from a federal standpoint, there is not a formal definition of significant contributor. What EPA does is sample above, below and within the facility and do an analysis to determine if pollutants below are significantly higher than above. It's a case by case basis.
Richard: so the scheme is to apply for 999 head and then you expand.
Mitch: inspectors can usually tell if they have gone over that number and then they might have to submit a NMP within 90 days, for example.
Q by Ralph: what was the timing of the zero out, 300 ppm P standard.
Mitch: it was worked out during negotiated rulemaking. We decided that a zero out at that level was better than no zero out.
Q by Ralph: NRCS would say that at 75% of the threshold which is 40 ppm, the producer needs to implement P reduction strategies. Does this rule have anything like that, or can you apply any rate up to 300 and at that point no more application?
Mitch: yes, but only on low risk fields. If it's any other risk score, it's basically crop uptake or less.
Q by Ralph: Is it possible to have 300 ppm P and still be a low risk field?
Mitch: would have to do the calculations in the excel spreadsheet to answer the question. Ralph asked for a copy of that. Mitch added that ISDA is in process of getting a dedicated technical services person in Twin Falls because his experience is in the Grade A sanitation side of things. Right now he is filling in for 3 vacant positions at ISDA.

Q by Irene: when Idaho gets primacy of the NPDES program, how will that affect regulation of dairies?
Mitch: not a lot of discussion on that yet. Beginning July 2018 DEQ will run the point source discharge program for municipalities, fish farms. CAFOs are considered a point source and they are under a general permit.
Nick: EPA still runs the program and DEQ is assuming primacy in a phased approach. It won't be until 2021 that DEQ gets the CAFO general permit. Currently there are zero permitted facilities in Idaho but not because there are zero dischargers. EPA is writing a new General Permit right now. If that permit comes out in 2019, that permit will be good for 5 years, and then DEQ would be responsible for writing the new permit. They are writing more specifics into the new permit in terms of what the expectations are for nutrient management and record keeping. Facilities are legally required to apply for the general permit if they discharge to waters of the U.S. Even after all the flooding last spring and the discharges, EPA has received no applications for the permit. The definition of WOTUS is still a case by case thing determined by EPA and the Corps. EPA proposed a change to the definition a couple years ago, was sued by several entities. EPA is in process of re-writing the definition, but not to hold our breaths because there will probably be more litigation. So he thinks the definition will continue to be determined on a case by case basis for years to come.
Q by Carolyn: will ISDA still regulate dairies?
Nick: DEQ will implement the IPDES program for those facilities that have permit coverage. Through a Memorandum of Agreement there may be a division of responsibilities between DEQ and ISDA.

Phyllis thanked Mitch and said the committee may ask more questions as we work through this section.

Review and Comment on Livestock Section

Irene said her intent for this segment was to brainstorm some ideas of how to revise and improve this section in our update. Carolyn brought her copy, but no one else has a copy to work from.
Phyllis: there isn't a huge difference in content of the livestock section between the two iterations of this document (2001, 2009). I want to make sure that the definitions and references to links and technical support are updated. We need to have numbers in here. Re: CAFO Siting Team - I wasn't even aware the siting team was in place.
Terry: what we have discovered over the last 10-15 years is that the ground water problems have not been as significant as we always anticipated. The Castle Rock SCD has done extensive work to prove that NMP plans allowed for nutrients to seep down in through those shallow seep tunnels. We took samples for years and we have not seen that happening. Our thought that this was going to be significant pollution to our ground water has not turned out to be true. With our pivot application we have seen decreases in nitrate. Salts are bad, but that's not a ground water problem.
Phyllis: because the salts are not leaching out we're going to end up being Mesopotamia and we won't be able to grow anything.
Brian: lava rock is a pretty good filter, we're leaching a lot into the subsoils but we're not pushing much through. It moves really slowly through lava rock.
Terry: I was convinced that we were going to see nitrate levels above these sprinkler irrigation systems, but we're not seeing those nitrate levels going up. That water is staying the same.
Brian: since the seventies the monitoring hasn't changed much; some things have gone up a little.
Q by Irene: was the monitoring done below dairies.
Terry: most of them are under the pivots that are utilized for the waste management.
Brian: it's moving through all the time; the aquifer is moving and a lot of salts, P, N are going out to the river all the time.
Terry: we are not seeing the dairies as major contributors as we thought they would be.
Brian: there are areas where the nitrates have gotten high and why it's certain areas and not others, some of them are obviously close to high dairy areas.
Phyllis: everything's moving toward the Snake R. and its concentrating just before it gets there and we're getting it in those areas.
Q by Irene: where is that body of data?
Brian: Dave Bjorneberg at ARS and Dave Carter did it in the seventies. Also Clarence Robison with U of Idaho; between Dave B. and the university we should get what we need.
Terry: what we missed was over application of fertilizer when the price of crops was high and cost of fertilizer was 35 cents a unit.
Phyllis: they used to throw on extra fertilizer for insurance which you're not seeing now.
Terry: they are monitoring that very closely in the beet and potato world. And wheat and corn are so cheap you can't put a dollar a unit N on there.
Brian: the deep soil sampling will be interesting.
Irene: that's the data showing P is moving down.
Terry: but not 400 feet.
Brian: the question is how much you can store in lava rock; it doesn't move very fast. On the N side it moves faster. The whole south side is a separate aquifer from the ESPA, and a much slower moving aquifer. We do still have pockets of high nitrate.
Irene: is the drain tunnel data continuing to be collected?
Terry said no: there are no grants right now. The source water grant ($10,000) was just to check those drain tunnels. We had some preconceived ideas of what that was going to show.
Brian: some areas that are high somehow do have some fracturing that's allowing nitrate. We know we are putting too much fertilizer in some areas. Phyllis said

Phyllis: its very site specific. What we need to do is start out by verifying definitions, get with Terry and what are the parameters that kick in the siting team. Terry said those are definitions, large LOC small LOC.
Carolyn: definition of CAFO? Concentrated or Confined? (Several chimed out "confined" but some in the meeting think it's "concentrated")
Phyllis: The terminology needs to be clarified so we know when we're talking about the same things. We need to distinguish between operations with a certain percentage that are pastured; there are different guidelines for them.

Terry: most of those have small livestock confinement permits.
Phyllis: a few things have changed and we need to reference those.
Richard: who is the customer for this document?
Phyllis: you, citizens.
Irene: not many "citizens" are going to read this and what makes more sense is to target groups, the people that can actually affect land management, like the county, well drillers, and the entities that can use the information and make the most impact.
Phyllis: we've done that to a certain extent. One of the things we talk about is small acreages to help them understand the risks. It's got to do both, so people can read it and get good information. It is for the consumer as well.
Terry: sees it as compiling information and then we say these are the things we need to be doing, these are things we haven't done yet, and these are what we are doing. The well drilling thing is critical. We're consolidating information.
Phyllis: we need to have the resources in here for people to find the information.
Terry: capping the well after tearing the homestead out is a major potential problem; people don't think about that.
Phyllis: there are places consolidated into large farms and probably none of those were abandoned.
Clinton: has an inventory of 150 abandoned wells, random wells that are no longer valid on water rights, and no caps on them. He said he will send letters out, but I can't force them to permanently decommission, can only require capping them.

How and where to include decommissioning and capping information was discussed.
Phyllis: let's keep it in the residential section; adding more information to section 3.3 Wells.
Clinton: if the well is not damaged, I can't tell them to decommission.
Water rights and value of a domestic well was discussed after Richard said he thinks that a domestic well has value. Points made include: 1) anyone can drill a domestic well, no water right needed; 2) in some counties in Washington you can't drill a domestic well, you can buy somebody else's or mitigate; 3) in Utah you have to have a water right for your domestic well before you can drill; 4) there reaches a point where domestic wells won't be a free (water right) anymore; 5) with advent of pivots the aquifer isn't recharging like it used to; 6) somewhere around 70% sprinkler conversion is probably where it will negatively impact the aquifer; 7) then we'll see more recharge programs like above the city of Buhl; 8) on Twin Falls tract we over irrigate even with pivots; 9) on Salmon tract irrigation doesn't have much impact on the aquifer; 10) domestic wells account for only about 1% of the discharge from the ESPA.
Clinton: some hard core people will file for a domestic water right and sometimes you can skew those numbers from a domestic exemption a little bit and those might have more value; just undocumented. Maybe in that case you can sell a domestic water right.
The graph Clinton handed out showing new well construction numbers from 2007-2017 was discussed. Points made include: 1) a new irrigation well is drilled usually when a new point of diversion is added to a water right, and the old one is decommissioned; 2) irrigation wells pull much more water, 3000 gpm; 3) most domestic wells also irrigate the lawn and that's where most water gets used.

Phyllis gave some homework: 1) everyone will get a copy of the new draft and make changes preferably using "track changes" in Word; 2) next meeting finalize changes to residential section; 3) go through and get comments on the livestock section; 4) She asked Clinton to draft wording for the capping and decommissioning of wells for next meeting. Brian said some areas have natural sinkholes, cracks in the lava rock. Irene asked everyone to think about how we can raise awareness of these sources of contamination so that more groups are aware, because people aren't going to come looking for this document necessarily. Terry suggested through planning and zoning, through soil conservation districts.

Capping a well or decommissioning a well was discussed. Clinton described decommissioning requirement. Brian told a story of when they contaminated 8 domestic wells by blasting in a sinkhole area. They drilled and paid for new deeper wells and paid Elsing to decommission the old wells and it was quite a process.

Other Updates or Business / Set next meeting date – Phyllis Beard, Co-Chair

Phyllis said we should meet after the New Year and not have a speaker so we can have a working session to focus on the livestock section. Irene said that she invited Mario de Haro Marti who is the livestock expert with Extension Service to work with us on this update. Meeting was adjourned at 3:51 pm.